



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,217	04/01/2004	Nicholas A. J. Millington	PA3445US	7302
22830	7590	07/13/2009		
CARR & FERRELL LLP 2200 GENG ROAD PALO ALTO, CA 94303			EXAMINER NICKERSON, JEFFREY L.	
			ART UNIT 2442	PAPER NUMBER
			MAIL DATE 07/13/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/816,217

Applicant(s)

MILLINGTON, NICHOLAS A. J.

Examiner

JEFFREY NICKERSON

Art Unit

2442

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 577-600 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 577-600 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
Paper No(s)/Mail Date 26 June 2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This communication is in response to Application No. 10/816,217 filed on 01 April 2004 as a non-provisional of Application No. 60/490,768 filed on 28 July 2003. The response presented on 22 April 2009, which provides change to claims 577, 581-583, 590, and 600 is hereby acknowledged. Claims 577-600 have been examined. This application remains under accelerated examination as per MPEP 708.02 VIII.

Claim Rejections - 35 USC § 112

2. Applicant's response filed 22 April 2009 providing change to claims 577, 590, and 600 is noted. All prior rejections under 35 USC 112, first and second paragraphs, are hereby withdrawn.

Claim Rejections - 35 USC § 101

3. Applicant's response file 22 April 2009 providing change to claim 600 and corresponding arguments is noted. Applicant's arguments are persuasive and, therefore, all prior rejections under 35 USC 101 are hereby withdrawn.

Response to Arguments

4. Applicant's arguments filed 22 April 2009 have been fully considered but they are not persuasive.

Independent claims 577, 590, and 600

In response to applicant's arguments against the references individually (Applicant's arguments: pgs 12-14 argument #1), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., definition of "media stream"; Applicant's arguments: pg 13, pars 1-2) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments against the references individually (Applicant's arguments: pgs 14-16 argument #2), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the time differential being a playback offset differential; Applicant's arguments: pg 15, pars

1-4) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments that Benslimane's restitution time is not based on a time differential, the examiner respectfully disagrees. As indicated and admitted by applicant, Benslimane's calculated restitution time is based on the received delta.

Applicant further argues that it would not be obvious to combine the teachings of Benslimane with the teachings of Mills, because Mills is directed towards minimizing relative clock drift on networked devices. The examiner respectfully disagrees. One of ordinary skill in the art would be motivated to utilize the teachings of Mills with Benslimane in order to ensure extremely precise synchronization, and for the reasons stated in the Non-Final rejection dated 22 January 2009.

Applicant further argues that Mills is nonanalogous art. The examiner respectfully disagrees. Both Mills and Benslimane are directed towards synchronizing functionality on networked devices.

Applicant's arguments are ultimately unpersuasive and, therefore, the rejections of these claims are hereby maintained.

Dependent claims 578-589, 591-599

Applicant argues these claims conditionally on that of their parent claim(s).

Applicant's arguments are ultimately unpersuasive and, therefore, the rejections of these claims are hereby maintained.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 577, 580-583, 587-590, 592, 594-598, and 600 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benslimane ("A Multimedia Synchronization Protocol for Multicast Groups", 2000), and further in view of Mills ("Precision Synchronization of Computer Network Clocks", 1994).

Regarding claim 590, Benslimane teaches a system for synchronizing media playback, the system comprising:

a plurality of devices configured to be in communication via a network, the plurality of devices comprising a source device and one or more playback devices (Benslimane: abstract);

wherein the source device is configured to transmit a media stream, the media stream comprising a time differential (Benslimane: section 3.1.1, Sync message's delta); and

wherein the one or more playback devices output the media stream via two playback devices in synchrony, the two or more playback devices being in synchrony when a user observing the outputting of the media stream is unable to perceive time-delay differences between the two or more playback devices (Benslimane: section 3.1.1 provides for calculating restitution time based on the sync delta; section 3.1.2 provides for inter-client synchronization); and

wherein a transmission message is a media stream (Benslimane: abstract).

Benslimane does not teach wherein the transmission message comprises source-clock information related to an independent clock associated with the source device; or

wherein the one or more playback devices are configured to determine the time differential between the independent clock associated with the source device and one or more independent clocks associated with the one or more playback devices based on the source-clock information.

Mills, in a similar field of endeavor, teaches wherein the transmission message comprises source-clock information related to an independent clock associated with the source device (Mills: section 2, specifically pg 3, LHS, last paragraph); and

wherein the one or more playback devices are configured to determine the time differential between the independent clock associated with the source device and one or

more independent clocks associated with the playback devices based on the source-clock information (Mills: pg 3, LHS; section 2.1, specifically pg 3 RHS, last paragraph to start of section 3); and

wherein the degree of synchrony is such that the differentials is unperceivable by a user (Mills: abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Mills for transmitting source clock information to enable time offset calculations. The teachings of Mills, when implemented in the Benslimane system, will allow one of ordinary skill in the art to keep the clocks of the transmitter and receiver very tightly synchronized and therefore prevent significant drift or skew in the middle of playback. One of ordinary skill in the art would be motivated to utilize the teachings of Mills in the Benslimane system in order to synchronize the playback of media between clients to a degree unperceivable to the user.

Regarding claim 592, the Benslimane/Mills system teaches wherein the plurality of devices are further configured such that devices can be added and removed from the plurality of devices without interrupting the tightly coupled synchrony (Benslimane: section 4).

Regarding claim 594, the Benslimane/Mills system teaches wherein a clock rate of the one or more independent clocks associated with the one or more playback devices is

adjustable (Mills: pg 3, LHS provides for adjustable frequency NCOs; See also section 2.1, paragraphs 1-3).

Regarding claim 595, the Benslimane/Mills system teaches wherein the media stream comprises audio information (Benslimane: abstract).

Regarding claim 596, the Benslimane/Mills system teaches wherein the media stream comprises video information (Benslimane: abstract).

Regarding claim 597, the Benslimane/Mills system teaches wherein the source-clock information comprises a timestamp (Mills: pg 2, RHS, last paragraph).

Regarding claim 598, the Benslimane/Mills system teaches wherein one or more playback devices are operable with one or more of unicast transmission or multicast transmission (Benslimane: abstract).

Regarding claim 577, this method claim contains limitations found within that of claim 590 and the same rationale of rejection is used, where applicable.

Regarding claim 580, this method claim contains limitations found within that of claim 592 and the same rationale of rejection is used, where applicable.

Regarding claim 581, the Benslimane/Mills system teaches wherein the additional device replaces the source device as a new source device (Mills: pg 2, Figure 1 provides for nested multicast groups; Benslimane: section 4 provides for adding and leaving).

Regarding claim 582, the Benslimane/Mills system teaches wherein the additional device joins the one or more playback devices as a new playback device (Benslimane: section 4 for adding and leaving).

Regarding claim 583, this method claim contains limitations found within that of claim 592 and the same rationale of rejection is used, where applicable.

Regarding claim 586, this method claim contains limitations found within that of claim 594 and the same rationale of rejection is used, where applicable.

Regarding claim 587, the Benslimane/Mills system teaches wherein determining the time differential is performed periodically (Mills: pg 3 LHS, last paragraph; pg 3, LHS, last paragraph).

Regarding claim 588, the Benslimane/Mills system teaches wherein the transmission of the media stream is performed by a multicast transmission methodology (Benslimane: section 1 provides for point-to-point comm.).

Regarding claim 589, the Benslimane/Mills system teaches wherein receiving the media stream is performed by a multicast transmission methodology (Benslimane: abstract).

Regarding claim 600, this machine readable medium claim contains limitations found within that of claim 590 and the same rationale of rejection is used, where applicable.

7. Claims 578-579, 591, and 599 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benslimane ("A Multimedia Synchronization Protocol for Multicast Groups", 2000), in view of Mills ("Precision Synchronization of Computer Network Clocks", 1994), and in further view of Official Notice.

Regarding claim 591, The Benslimane/Mills system does not teach further comprising controlling one or more of the plurality of devices via a user interface module.

An official notice is taken that such use of user interface modules for controlling devices was well known in the art at the time the invention was made by one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize any known controlling technique including a user interface because it would have enabled practicing the Benslimane/Mills system.

Regarding claim 578, this method claim contains limitations found within that of claim 591 and the same rationale of rejection is used, where applicable.

Regarding claim 579, the Benslimane/Mills system does not teach further comprising providing status information associated with one or more of the plurality of devices.

An official notice is taken that such use of providing status information for aid in awareness of controlled devices was well known in the art at the time the invention was made by one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize any known controlled device awareness technique including a providing status information because it would have enabled practicing the Benslimane/Mills system.

Regarding claim 599, the Benslimane/Mills system teaches tightly coupled synchrony output of a media stream between devices (Benslimane: abstract).

The Benslimane/Mills system does not teach wherein the source device is capable of playback.

An official notice is taken that such use of a source device for playback was well known in the art at the time the invention was made by one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize any known device for playback including the source device because it would have enabled practicing the Benslimane/Mills system.

8. Claims 584-585 and 593 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benslimane ("A Multimedia Synchronization Protocol for Multicast Groups", 2000), in view of Mills ("Precision Synchronization of Computer Network Clocks", 1994), and in further view Powers (US 2004/0203378 A1).

Regarding claim 593, the Benslimane/Mills system does not teach wherein a master device is a source device and a slave device is one or more playback devices (Benslimane: abstract).

The Benslimane/Mills system does not teach wherein a master device is further configured to be converted into one of the one or more slave devices; or

and wherein at least one of the one or more slave devices is further configured to be converted into the master device.

Powers, in a similar field of endeavor, teach wherein a master device is further configured to be converted into one of the one or more slave devices (Powers: [0007] provides for masters handing off master-ship to a slave); or

and wherein at least one of the one or more slave devices is further configured to be converted into the master device (Powers: [0007] provides for a slave being promoted).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Powers for having promotion/demotion scheme for multicast groups. The teachings of Powers, when implemented in the

Benslimane/Mills system, will allow one of ordinary skill in the art to promote playback devices to be the source device and demote source devices to mere playback devices. One of ordinary skill in the art would be motivated to utilize the teachings of Powers in the Benslimane/Mills system in order to allow recovery if the source suddenly leaves the network, or the a playback device is deemed a more capable source device (more processing power, more content, etc).

Regarding claim 584, this method claim contains limitations found within that of claim 593 and the same rationale of rejection is used, where applicable.

Regarding claim 585, the Benslimane/Mills/Powers system teaches wherein the tightly coupled synchrony is uninterrupted (Benslimane: section 4 provides for network group management operations while maintaining synchrony; Powers: [0007] wherein network group management operations are promotion/demotion).

Citation of Pertinent Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Davis (US 2009/0157905 A1) discloses synchronizing clocks across a network using various factors.
- b. Moore (US 7,206,367 B1) discloses an audiovisual multicast inter-client synchronization system that adjusts local device clocks based on a main reference.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 9:00am - 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Jeffrey Nickerson
Examiner, Art Unit 2442

/Andrew Caldwell/
Supervisory Patent Examiner, Art
Unit 2442